

03050103-040*(Cane Creek)***General Description**

Watershed 03050103-040 is located in Lancaster County and consists primarily of *Cane Creek* and its tributaries. The watershed occupies 90,086 acres of the Piedmont region of South Carolina. The predominant soil types consist of an association of the Helena-Herndon-Georgeville-Appling series. The erodibility of the soil (K) averages 0.24 and the slope of the terrain averages 12%, with a range of 2-45%. Land use/land cover in the watershed includes: 69.6% forested land, 16.9% agricultural land, 9.3% urban land, 3.1% scrub/shrub land, 0.6% water, and 0.5 barren land.

Cane Creek originates in North Carolina and accepts drainage from Simpson Branch, Unity Branch, Flag Pond Branch, McAteer Branch, Sandy Branch, Cedar Pines Lake, and Camp Creek (North Prong, South Prong). Further downstream, the Bear Creek drainage enters Cane Creek. Bear Creek accepts drainage from Caney Branch and Dry Branch before flowing through the Lancaster Reservoir. Lancaster Reservoir (75 acres) is used for municipal and recreational purposes for the Town of Lancaster. Turkey Quarter Creek (Little Turkey Creek) flows into Bear Creek at the reservoir, and further downstream Gills Creek (Hannahs Creek) enters near the Town of Lancaster. Rum Creek drains into Cane Creek near the Town of Fort Lawn. There are a total of 236.4 stream miles and 371.5 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
CW-185	S/W	FW	CANE CREEK AT SC 200 5 MI NNE OF LANCASTER
CW-151	S/W	FW	BEAR CREEK AT S-29-362 3.5 MI SE OF LANCASTER
CW-047	S/W	FW	GILLS CREEK AT US 521 NNW OF LANCASTER
CW-131	S/W	FW	BEAR CREEK AT S-29-292 1.6 MI W OF LANCASTER
CW-210	BIO	FW	CANE CREEK AT SC 9 BYPASS
CW-017	S/INT	FW	CANE CREEK AT S-29-50
CW-232	W	FW	RUM CREEK AT S-29-187

Cane Creek - There are three SCDHEC monitoring sites along Cane Creek. Aquatic life uses are not supported at the upstream site (*CW-185*) due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is a significant decreasing trend in pH. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. Aquatic life uses are partially supported at the midstream site (*CW-210*) based on macroinvertebrate community data.

At the downstream site (*CW-017*), aquatic life uses are not supported due to dissolved oxygen excursions. There is also a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Significant decreasing trends in total phosphorus and total nitrogen concentrations suggest improving conditions for these parameters. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions.

Bear Creek – There are two SCDHEC monitoring sites along Bear Creek. Aquatic life uses are not supported at either site (**CW-151**, **CW-131**) due to dissolved oxygen excursions, which are compounded by significant decreasing trends in dissolved oxygen concentration. Recreational uses are partially supported at the upstream site (**CW-151**) and not supported at the downstream site (**CW-131**) due to fecal coliform bacteria excursions.

Gills Creek (CW-047) - Aquatic life uses are not supported due to dissolved oxygen excursions, which is compounded by a significant decreasing trend in dissolved oxygen concentration. There is also a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Recreational uses are not supported due to fecal coliform bacteria excursions.

Rum Creek (CW-232) - Aquatic life uses are not supported due to dissolved oxygen excursions. There is a significant decreasing trend in pH. Recreational uses are partially supported due to fecal coliform bacteria excursions.

NPDES Program

Active NPDES Facilities

<i>RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)</i>	<i>NPDES# TYPE COMMENT</i>
CANE CREEK	SC0027383
MCATEER MOBILE HOME PARK	MINOR DOMESTIC
PIPE #: 001 FLOW: .00565	

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

<i>LANDFILL NAME FACILITY TYPE</i>	<i>PERMIT # STATUS</i>
FRANKS TIRE PROCESSING TIRE PROCESSING	292414-5201 -----
SNIPES SHORT-TERM C&D LANDFILL CONSTRUCTION	292648-1301 -----
SPRINGS INDUSTRIES INDUSTRIAL/CONSTRUCTION	293314-1201 (CWP-023, IWP-080 ----- IWP-081, IWP-134, IWP-102)
PARNELL INERT LANDFILL INDUSTRIAL	IWP-213

Mining Activities

MINING COMPANY
MINE NAME

PERMIT #
MINERAL

BRS, INC.
 MT. NEBO PIT

1235-57
 SAND

Growth Potential

The City of Lancaster is located in this watershed, and has densely developed areas of residential, commercial, and industrial land uses. The City of Lancaster continues to expand its wastewater treatment plant. This will allow for increased industrial and municipal flows. A large area of residential development extends to the south of the city, and also along S.C. Hwy. 9 and S.C. Hwy. 903 to the east, and U.S. Hwy. 521 and S.C. Hwy. 200 to the north. Significant industrial and commercial growth has occurred on the north side of the city along the S.C. Hwy.9 Bypass. Rail lines in the cities of Rock Hill and Chester run along S.C. Hwy 9. Water service is available along major roads throughout the watershed. Sewer service is available in the City of Lancaster in the residential areas to its south, and along S.C. Hwy. 903 east of the city. Lancaster County continues to develop Catawba Ridge, a large mixed-use community along Fishing Creek Reservoir. The development would extend from S.C. Hwy. 9 down to S.C. Hwy. 200, within the County. The overall project could result in a densely populated residential area, which would include commercial and industrial uses. To date, some residential developer has purchased acreage in the development with some limited housing construction underway.

Watershed Protection and Restoration***Total Maximum Daily Loads (TMDLs)***

A TMDL was developed by SCDHEC and approved by EPA for several water quality monitoring sites in the ***Cane Creek*** watershed including CW-151 and CW-131 along Bear Creek, CW-047 on Gills Creek, and CW-185 and CW-017 along Cane Creek to determine the maximum amount of fecal coliform bacteria they can receive from nonpoint sources and still meet water quality standards. The primary sources of fecal coliform to the sites were determined to be runoff from agricultural areas. The TMDL states that a 7% reduction in fecal coliform loading from these urban and agricultural sources at monitoring site CW-151, a 69% reduction at CW-151, a 63% reduction at CW-047, a 39% reduction at CW-185, and a 74% reduction at CW-017 are necessary for the streams to meet the recreational use standard. For more detailed information on TMDLs, please visit the SCDHEC's Bureau of Water homepage at <http://www.scdhec.gov/water> and click on "Watersheds and TMDLs" and then "TMDL Program".

Special Projects**NPS Assessment and TMDL for Phosphorus in the Catawba River Basin**

In June 2003, researchers at the University of South Carolina completed a \$319-funded study of nutrient loading in the lower Catawba River basin using the WARMF (Watershed Analysis Risk Management Framework) water quality model. The model estimated that the lower Catawba (defined as

the Catawba River downstream of the Lake Wylie dam and all tributaries through Lake Wateree) received an average load of 2100 kg/day of phosphorus for the 1996-1998 study period. Of this load, 46% was from point sources, 39% was from nonpoint sources, and 15% was from Lake Wylie. SCDHEC is currently using the WARMF model, which is being updated through 2003, to further refine nonpoint sources, to determine loading rates that would allow the reservoirs to meet the phosphorus standard (TMDLs), and to calculate wasteload allocations for phosphorus for the impaired reservoirs. Cooperators in the study include Catawba River stakeholders, North Carolina DWQ, and EPA Region 4.

Great Falls Heritage Tract

The Katawba Valley Land Trust (KVLTL) is in the process of raising money to buy 2,000 acres on either side of the Catawba River at Great Falls, as well as along Cedar Creek Reservoir and Great Falls Reservoir. This tract includes more than 15 miles of water frontage on the river and tributaries will be conserved as a nature preserve or park. This project contributes to implementation of the Catawba River Corridor Plan.

Sustainable Environment for Quality of Life

Sustainable Environment for Quality of Life (SEQL) is a USEPA program, which addresses regional environmental planning through the Centralina Council of Governments and the Catawba Regional Council of Governments. SEQL is intended to assist local governments in the 15-county Charlotte/Gastonia/Rock Hill region to work together to promote economic growth while protecting the environment. Multiple air and water quality issues are analyzed simultaneously, while addressing transportation, water, land use, energy use, population growth and economic development. The Department has supported the program by providing air and water quality information. More information about SEQL is available at the following website: <http://centralina.org/seql/background.htm>.